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## Captain Ross's Voyage to Baffin's Bay.

*A Voyage of Discovery, made under the Orders of the Admiralty, in His Majesty's Ships Isabella and Alexander, for the Purpose of exploring Baffin's Bay, and inquiring into the Probability of a North-West Passage. By John Ross, K. S. Captain in the Royal Navy. Murray, London, 1819.—From the Sixty-second Number of the Edinburgh Review.*

(With an Engraved Chart of the Ships' Track—Plate XXVII.)

The antient connexion of the Basin and the Pole, is well known to that part of the learned world which has devoted itself to the study of our sign-posts, and the head armour of Don Quixote;—and we suppose it is to this venerable association that we are indebted for the happy phrase of the *Polar Basin*, of which it has been our lot to hear so much for the last twelve months.

For our own parts, we have no objection to a Polar Basin—provided only that it can be found. But we cannot be brought to consider it as an article of prime necessity—and do not yet see why we should be out of humour either with Nature or our Navigators, although it should turn out that there was no such thing.—It is curious indeed to see how fashions change—and how little more reasonable we are for all our learning. In the days of Captain Cook, all the world was for a Polar Continent—a *Terra Australis*;—and yet we do not remember, that any body abused that great navigator for failing to discover it, or reporting that it did not exist.—Now, however, the rage is for a Polar Basin—and we think, there are evident symptoms of very ungrateful dissatisfaction with Captain Ross and his associates, because they have exposed themselves to great toils and perils, with the same negative success.—But in truth it is absurd to hold, that there can be any want of success in an actual survey of regions previously unexplored—or that it can make any difference to the cause of geographical science, with what substances such regions may be bounded.—It would have been a discovery if Captain Cook had found an Austral Continent, and it would have been a discovery if Captain Ross had found a North-West Passage.—But if it was a discovery in the former to ascertain, that there was no such land, it must be equally so in the latter to have ascertained that there is no such passage.—The one found only ice, where his employers hoped he might find land;—and the other found only land, where they had set their hearts upon his finding water.—But both have equally extended our actual knowledge of the globe, and enabled us to determine with precision much that was formerly disputed.

Captain Ross appears to have done his duty with great diligence, courage and ability; and to have told his story very clearly and honestly. But we cannot say that he has made a very interesting or entertaining book of it—or that his voyages are likely to go through as many editions as those of Captain Cook; on the contrary, we must fairly say, that we have found this work very heavy reading, and that it appears to us to be encumbered with details which might very well have been spared. It is our duty, however, to lay before our readers as clear and succinct an account of it as we can.

On the 18th of April 1818, the *Isabella* and *Alexander*, the former commanded by Captain Ross, and the latter by Lieutenant Parry, dropped down the river, and until the 30th of the same month, were occupied in reaching Shetland. The activity of the men of science here burst forth with all the zeal to be expected from new naturalists, burning to try the temper of their hammers upon the Northern rocks, and to stain their maiden nippers in the blood of the first butterfly. The bones of a whale were brought triumphantly on board—as a part of the skeleton of a mammoth.

On the third of May the signal was made for sailing; and here the voyage may be said to have commenced. The first nautical observation of importance, occurred on the 8th of this month, and it serves to nullify the place, if not the existence of Oloffe Kramer's bank. This remark is shortly followed by a similar one, on the 'Sunken land of Buss;' in which, also, we infer, that Captain Ross is an unbeliever. The first ice was seen on the 26th of May, nearly in the latitude of Cape Farewell. Pennant attempts to describe from others, what he had never seen himself, the singular splendour of colouring, and the infinitude of strange and picturesque forms, which these masses assume. Captain Ross, who, as we understood, was long employed in surveying the White Sea, must have often seen them: But he seems to us to have failed nearly as much as the other; and, indeed,

we are persuaded, that the ideas of visible objects, to which there is no thing analogous in ordinary experience, can never be communicated by mere description. Nor has Captain Ross's draftsman made them very palpable to the sense.

Ice was now met with every day, and the weather was found variable, while the ships held their course in a north-westerly direction, towards the entrance of Baffin's Bay, very absurdly called Davis's Strait. Here, on the first of June, a certain memorial of the date and ships' place was committed to the waves in a bottle: a practice resorted to on various other occasions; throughout the voyage, for the purpose of ascertaining, in the event of their being afterwards found, the direction and the velocity of the current which sets through the north-west passage, and out of—the Polar Basin.

The temperature at this time was about the freezing point; that of the surface of the water and the air differing by about two degrees. The observations of this nature are very profusely scattered through the Journal; but having been very sensibly brought into one general view in a Table, we shall pay no further attention to them in this sketch of the voyage. On the 4th of June, the first positive decision is made respecting the non-existence of a current; although the bottle, pursuant to orders, is still very properly sent afloat, to sail down the stream of time. The first remarks which have met us on the deviation of the magnetic needle, in consequence of the ship's attraction, are here also made. This fact, as our nautical and philosophical readers know, was originally pointed out by Captain Flinders, and it appears to have occupied a considerable share of Captain Ross's attention; but as it is treated in some detail in a separate memoir, it may also be passed over for the present. It is more material to observe, that we are here again assured, that there was no current; 'which appeared surprising,' as the wind had blown for three successive days directly down the strait. The island of Disco was seen on the 9th of June; but no material observations appear to have been made between this period and the 14th, when the Expedition reached Waygat Island.—the usual nautical remarks occupying this portion of the Journal. An important report from the Inspector of the Danish settlement is here quoted; and it seems not a little at variance with the popular belief which preceded, and seems in a great measure to have given birth to, the Expedition. We are there informed, that the winter had been unusually severe; the sea being frozen near his station early in December, when it was generally frozen only about the middle of February. Love Bay, and Waygat's Strait, were still frozen: he had been resident in Greenland seven years, and had remarked that the severity of the cold increased. How are we to reconcile this statement with the breaking up of the polar ice, with cycles of seasons, and the approach of those halcyon days, when every potatoe-field in England shall become a vineyard, and even the John Barleycorn of our native poet give way to native claret and champagne? Even the burning rays of the aurora borealis itself seem, in Inspector Finshe's opinion, to have fallen blunted from the adamantine sea that hemmed in his friends, and compelled them to eat their dogs instead of seals;—which, after all, was no very bad change of diet.

It appears, that the Esquimaux can here see the opposite land across the strait in a clear day; an observation afterwards confirmed by the experience of Captain Ross's officers. As the distance cannot be much less than 200 miles, that land must be very high; although much must also be attributed to the effects of horizontal refraction. The height from which the natives see this land cannot exceed 1000 feet, as the hills are rarely accessible to a higher point, by reason of the ice and snow. A current was here observed running south, at the rate of a quarter of a mile an hour: But there is no reason to think that it comes from the Polar Basin. In many cases, these currents appear, from the Journal itself, to be merely the tide-currents, and alter their directions in a few hours, as that changes. In other cases, they are the result of the winds, which, acting on the loose ice, and impelling it forward, the water necessarily follows to fill up the wake, thus producing the superficial and deceptive appearance of a real current. We are persuaded, (and the results to be deduced from this Journal justify us in that opinion), that the currents, respecting which so much has been said, and which have given rise to so many fanciful speculations, are all of the same nature, and that no permanent or steady current exists in Baffin's Bay.

The sea, on the 17th of June, appeared to occupy the whole visible horizon; and the vessels were made fast, by means of their ice-anchors, to an iceberg, being detained in company with 45 ships employed on the whale

fishery. The first important geographical observation respecting the land is here made; and a correction of 5° in longitude, and of 30 miles in latitude, was made in the Admiralty charts. This was to be expected, in consequence of the inadequate means and the inadequate hands, from which former positions had been deduced; and, among other important fruits of this expedition, to Geography, it will be seen, by consulting the appended chart, that a material change has been made in the position of the land wherever that had formerly been determined, either by dead reckoning, or by observations on the longitude.

After the usual difficulties in working through the ice, the Expedition reached Four Island Point, where a worthy disciple of Dr. Spurzheim was found digging for skulls. Here the ships were put into a perilous situation by the motion of the ice; and the Alexander took the ground, but was relieved by the exertions of the crew, and those of some whalers that chanced to be in company. A detail is next given of an outrage committed on the Danish factory, by some sailors from a fishing vessel. We are happy to inform our readers, that the Admiralty very properly interfered after the return of this expedition, and that adequate remuneration has since been made to the injured. To sweeten the remembrance of this injury, a ball was given to the natives, a Shetland Orpheus forming part of the Isabella's establishment, and the Esquimaux interpreter Sackhouse conducting the ceremonial.

Sackhouse's mirth and joy exceeded all bounds; and, with a good-humoured officiousness, justified by the important distinction which his superior knowledge now gave him, he performed the office of master of the ceremonies. An Esquimaux master of ceremonies to a ball on the deck of one of His Majesty's ships in the icy seas of Greenland, was an office somewhat new; but Nash himself could not have performed his functions in a manner more appropriate. It did not belong even to Nash to combine in his own person, like Jack, the discordant qualifications of seaman, interpreter, draughtsman, and master of ceremonies to a ball, with those of an active fisher of seals, and a hunter of white bears.

This poor man, after the voyage was terminated, was sent to Edinburgh with the intention, as Captain Ross informs us in his Introduction, of being again appointed interpreter on the next expedition; and here he unfortunately died. He appears to have combined an unusual degree of intelligence and ingenuity, with much ardour for the acquisition of knowledge; a feature, if we judge from the reports of the Moravians, very prevalent among the Esquimaux of Labrador. He had narrowly escaped with his life, shortly after the ball, by the bursting of his overloaded gun.

The ice, which had so long formed a solid mass, and hitherto impeded the attempts of the expedition to work its way towards the North, began to break up on the 2d of July; and the vessels accordingly moved forward slowly, labouring through narrow and intricate channels, among mountains and loose pieces of field ice. To the westward, the ice continued solid; and it soon appeared, that the only chance of effecting a further passage North, consisted in keeping near the shore.

This fact has been generally known to former navigators, as it is to the whalers within the limits of their experience in Baffin's Bay. The cause, however, has not been investigated. On narrowly examining Captain Ross's Journal, it will be found to be connected with the relative depth of water in the several parts of the Bay. Along the shore, the soundings are every where deep, ranging from 90 to 450 fathoms on the east side. But whenever, from the openness of the ice, it was possible, and for making way to the north necessary, to stand out into the Bay, the water was gradually found to shoal; and, as yet, wherever the observations were made, from 80 to 40 fathoms. It will certainly be singular if this extraordinary formation of the bottom should be found to prevail generally in this region. But if it should, it would at once enable us to account for the peculiar direction in which the ice breaks up, and its permanence in the middle of the Bay; where it is also maintained by the grounding of icebergs in a direction transverse to the Bay, on certain shoals which are noticed in a subsequent part of the Journal. On the 15th, the Isabella seems to have been once more placed in a perilous situation, by being jammed in between two ice-floes, and lifted several feet out of the water.

No occurrence more interesting than the usual difficult progress through the ice, appears to have taken place till the 24th, when the Expedition reached a point, beyond which, as far as Cape Dudley Digges, land had not been seen by former navigators; and here Captain Ross's geographical discoveries may properly be said to commence. The first important observation he made was, that the whales were as numerous and as tame as they were in the days of the Baffins and the Davises. We trust our whalers will profit by the discovery. The wretched economy prevalent in the victualling of their ships is such, that they are often known to return nearly destitute of provisions; nor can they venture beyond the old beaten track, for fear of the consequences of an accidental detention. His voyage has proved, that even in a season of no peculiar mildness, and after a winter unusually severe, the whole Bay may be circumnavigated within that time in which a whaler may safely return; and that the unexplored parts abound in those fish which have been gradually, and for a long time, becoming scarce in the more frequented parts of this sea. Another remark may be made on the tameness of these whales. They appear never to have been disturbed, showing no fear of the ships or of the boats; a proof that they do not range far, though harpooned whales have been supposed to pass through the north-west passage from Spitzbergen into Baffin's Bay.

Here probably originated the thoughts of a passage towards the north and north-east round Greenland; although no direct intimation of this is given in the Journal. Probably Captain Ross may have suppressed his opinion on this head; as, by his instructions, he is directed to explore this

part of the coast, after he had examined the eastern shore of America; rather a singular mode of proceeding, as he was to return for that purpose through the very route he had passed, when even the whole season was barely sufficient to carry him to Cumberland Strait. But these are points in navigation beyond the limits of our acquaintance on this subject, and we must leave the adepts in this science to settle it among them. Our judgment respecting his opinion, is founded on the description of high mountains of land and ice to the east of Melville Bay, forming an impassable barrier.

On the 7th of August the vessels experienced a severe gale of wind and were in extreme danger. We shall give the description in Captain Ross's own words.

'A floe on one side of the Isabella appeared to be fixed, while another, with a circular motion, was passing rapidly along. The pressure continuing to increase, it became a trial of strength between the ship and the ice; every support threatened to give way; the beams in the hold began to bend; and the iron tanks settled together. At this critical moment, when it seemed impossible for the ship to sustain the accumulating pressure much longer, she rose several feet; while the ice, which was more than six feet thick, broke against her sides, curling back on itself. The great stress now fell upon her bow, and, after being again lifted up, she was carried with great violence towards the Alexander, which ship had hitherto been, in a great measure, defended by the Isabella. Every effort to avoid their getting foul of each other failed, the ice-anchors and cables broke due after another, and the sterns of the two ships came so violently into contact, as to crush to pieces a boat that could not be removed in time. The collision was tremendous, the anchors and chain-plates being broken, and nothing less expected than the loss of the masts: but, at this eventful instant, by the interposition of Providence, the force of the ice seemed exhausted; the two fields suddenly receded, and we passed the Alexander with comparatively little damage. The last things that hooked each other were the two lower anchors, which, being torn from the bows, remained suspended in a line between the two ships, until that of the Alexander gave way.'

By this, as well as by the circumstance formerly mentioned, it appears that the Isabella had been better adapted to the ice than was originally supposed; and that to her unusual strengthening she was indebted for the escape she had made.

On the cessation of this gale, land was seen; and the first discovery was made of that colony of Esquimaux, respecting which the public has already heard nearly all that Captain Ross has to say; and to whom he has given, with somewhat of national affection, the name of Arctic Highlanders. By the intervention of the Esquimaux interpreter, a communication was soon established, which was maintained at intervals for six days; when the opening of the ice, and the positive nature of his instructions on the main object of the expedition, compelled him to take leave of Prince Regent's Bay. Captain Ross informs us these Esquimaux conceived the ships to be living and flying creatures; a much more natural mistake where whales are familiar objects, than in many other situations where we understand it to have occurred. During the conversation which was held with the interpreter Sackhouse, (Captain Ross states)

'I had been employed with a good telescope, in observing their motions; and beheld the first man approach with every mark of fear and distrust, looking frequently behind to the other two, and beckoning them to come on as if for support. They occasionally retreated, then advanced again with cautious steps in the attitude of listening, generally keeping one hand down by their knees, in readiness to pull out a knife which they had in their boots; in the other hand they held their whips with the lash coiled up; their sledges remained at a little distance, the fourth man being apparently stationed to keep them in readiness for escape. Sometimes they drew back the covering they had on their heads, as if wishing to catch the most distant sounds; at which time I could discern their features, displaying extreme terror and amazement, while every limb appeared to tremble as they moved.' They were requested to cross a chasm which separated them from the interpreter, by a plank; but 'appeared still much alarmed, and requested that Sackhouse only should come over; he accordingly passed to the opposite side, on which they earnestly besought him not to touch them, as, if he did, they should certainly die. After he had used many arguments to persuade them, that he was flesh and blood, the native who had shown most courage, ventured to touch his hand; then pulling himself by the nose, set up a shout, in which he was joined by Sackhouse, and the other three. The presents were then distributed, consisting of two or three articles of clothing, and a few strings of beads. After which, Sackhouse exchanged his knife for one of theirs.

Captain Ross and Lieutenant Parry then went on the ice; and, by the time they reached it, the whole were assembled; those who had originally been left at a distance with their sledges, having driven up to join their comrades. The party now, therefore, consisted of eight natives, with all their sledges, and about 50 dogs, two sailors, Sackhouse, Lieutenant Parry, and myself; forming a groupe of no small singularity, not a little increased, also, by the peculiarity of the situation on a field of ice far from the land. The noise and clamour may be easily conceived, the whole talking and shouting together, and the dogs howling, while the natives were flogging them with their long whips to preserve order. Our arrival produced considerable alarm, causing them to retreat a few steps towards their sledges; on this, Sackhouse called to us to pull our noses, as he had discovered this to be the mode of friendly salutation with them. This ceremony was accordingly performed by each of us, the natives during their retreat making use of the same gesture, the nature of which we had not before understood. Presents were then made, and 'on seeing their faces in the glasses, their astonishment appeared extreme, and they looked round in silence, for a moment, at each other, and at us. Immediately afterwards they set up a general shout, succeeded by a loud laugh, expressive of extreme delight, as well as surprise, in which we joined, partly from inability to avoid it, and willing also to show that we were pleased with our new acquaintances.'

Confidence shortly after became established, and uncovering of heads was substituted for pulling of noses; the natives appearing to comprehend the nature of this ceremony, more quickly than the seamen did the other,



and probably not considering it a much more reasonable, although a more inconvenient testimony of respect. They were then invited to the ship, to which one of them thought proper to address a speech, 'pausing between every question, and pulling his nose with the utmost solemnity.' All the wonder to be expected was here excited: but the quantity of the wood and iron appeared to be the chief objects of surprise.

Their knowledge of wood seemed to be limited to some heath of a dwarfish growth, with stems no thicker than the finger, and accordingly they knew not what to think of the timber they saw on board. Not being aware of its weight, two or three of them, successively, seized on the spare top-mast, evidently with the view of carrying it off; and as soon as they became familiar with the people around them, they showed that desire of possessing what they admired, which is so universal among savages. The only thing they looked on with contempt was a little terrier dog,—judging, no doubt, that it was too small for drawing a sledge; but they shrunk back, as if in terror, from a pig, whose pricked ears, and ferocious aspect, being of the Shetland breed, presented a somewhat formidable appearance. This animal happening to grunt, one of them was so terrified, that he became from that moment uneasy, and appeared impatient to get out of the ship. In carrying his purpose into effect, however, he did not lose his propensity to thieving, as he seized and endeavoured to carry off the smith's anvil; finding that he could not remove it, he laid hold of the large hammer, threw it on the ice, and, following it himself, deliberately set it on his sledge, and made off.

The intercourse with the natives was interrupted for two days by a gale of wind, but renewed on the 13th of August, and continued to the 16th, when, the ice having opened, Captain Ross felt it his duty, to quit this position, and to pursue without loss of time the main object of the expedition. The tract here called the Arctic Highlands, occupies a space of 120 miles on the shore, and of about 20 in breadth, being cut off from the surrounding land, by impassable mountains. As the officers, at the time they originally landed, did not proceed far beyond the beach, nothing definite is given respecting the nature of the country or its produce, except the little that could be collected from the reports of the natives. The most important article of this, is the native iron, from which, by means of sharp stones, they procure fragments, which being flattened, are inserted in a handle of sea unicorns' horns, thus forming very tolerable knives. It is ascertained to contain nickel, and therefore conjectured to be of meteoric origin. Game, consisting probably of some species of *Lepus* and hares, were said to be abundant, as well as black foxes, a fur of which the value is considerable—as, at the moment we write, it is selling at 20 guineas per skin, undressed, at the brokers' sales. It is imagined also that a commerce in sea ivory might be established; and the abundance of whales forms a legitimate temptation to extend the fishery thus far.

Their language is a dialect of the Esquimaux; and a parallel vocabulary, of small extent, is given in the Journal; and there is a speculation on the origin and connexions of these tribes, from which we learn nothing. In persons, manners, and dress, they differ little from the Southern Esquimaux; but the number of the natives could not be discovered. It is imagined by Captain Ross that they have no idea of a spirit, good or evil, and that their conjurors or *angakoks*, are merely a superior order of jugglers, serving their apprenticeship regularly to the business; and like the Lapland wizards, capable of bottling a storm in a night-cap. The habitations are partly sunk under ground, as is usual in these arctic regions, and the fire and light for all purpose is a wick of moss dipped in oil. That oil, and the flesh of the sea unicorn, seem to constitute their chief articles of food, but their diet appeared to be purely animal, as it was believed they had no esculent vegetable substance, and rejected with disgust that which was presented to them on board the ship. In their dog sledges, their aversion to walking, and other general habits, they resemble all the tribe, and they appeared contented and well fed.

In one respect they showed a very decided mark of civilization, by which, no less than by the sight of a gibbet, a stranger might determine that he had arrived at civilized country:—They have a king, to whom they pay taxes. He is, however, 'strong, very good, and very much beloved;—some compensation, assuredly, for a gabelle of train-oil, or a poll-tax on sea unicorns. Another essential mark of civilization is, however, wanting;—they have no war: And there is yet a fact perhaps still more surprising;—they are utterly unacquainted with any mode of going on the water, and appeared never even to have heard of a canoe.

On leaving this colony, the Expedition reached what Captain Ross calls the 'last barrier of ice,' and 'for the first time saw the sea wash the rocks.' Baffin's sight of the land had terminated before he came near this place; nor did he again see the shore until he was near Cape Dudley Digges.

We think we can deduce, from various observations in the Journal, that this barrier is formed by a multitude of icebergs, aground on a bottom of about 40 fathoms in depth. By means of these, the motions of the field ice is checked, and a solid body is thus generated, which remains to so late a period in the year as to impede the attempts of vessels, which are generally ready to make the attempt before the thaw is sufficiently established. The drifting of the ice by the north-west winds, from the upper and wider parts of the bay, causes the loose ice to settle and consolidate in this manner, not only on this shore, but on the general line of shallow water that runs parallel to the east side of the bay; and it is probable, that at the season at which this barrier was passed, a passage into the Bay might have been effected in many other places to the southward, where, at an earlier period, it had been found impassable.

The velocity of the tide was about one mile in the hour, the ebb to the eastward: the water was deep, and no indication of any other current is men-

tioned. It appeared that foxes of various colours, black, white, and red, were found on the shore at this place;—to which the name of Cape York is given.

To the north of this point, a considerable tract of ice or snow was found, stained of a dark crimson colour, to the depth of 10 or 12 feet. On examination, the colouring matter was found to consist of minute globular particles; and a portion was brought home for examination. In the Appendix, the result of that examination, by Dr. Wollaston, is stated; and he is strongly inclined to think the red matter consists of minute globules, from 1-1000th to 1-2000ths of an inch in diameter. I believe their coat to be colourless, and that the redness belongs wholly to the contents, which seems to be of an oily nature; and not soluble in water, but soluble in rectified spirits of wine. When the globules are highly magnified, and seen with sufficient light, they appear to be internally subdivided into about 8 or 10 cells. They bear to be dried with the heat of boiling water, without loss of colour; by destructive distillation they yield a fetid oil, accompanied with ammonia, which might lead to the supposition that they are of animal origin; but since the seeds of various plants also yield this product, and since the leaves of Fucus also yield ammonia by distillation, I do not discover any thing in the globules themselves which shows distinctly from what source they are derived. I find, however, along with them, a small portion of cellular substance, which has not only these globules adherent to its surface, but also contained in its interior; and this substance, which I must therefore consider of the same origin with them, appears by its mode of burning to be decidedly vegetable, as I know of no animal substance which so instantly burns away to a white ash as soon as it is heated to redness.

We have only to add to this statement, that, from portions of this matter which have arrived in Edinburgh, the smell at present is that of a mixture of fish oil and drying oil, with something peculiarly offensive superadded. No further light can of course at present be thrown on this curious subject.

On the 17th of August, Cape Dudley Digges was made, and found to agree with the description given of it by Baffin. The inlets were everywhere filled with solid ice; and the interior country presented a range of high mountains covered with snow. Here an opportunity was also afforded of witnessing the origin of the icebergs; and a plate of the object is given. The country was inhabited even here, as huts were to be distinguished. It was concluded to be Petowack, the capital of the Arctic Highlands. We are here treated, 'en passant,' with a remark on the substitution of food for sleep. We have often heard of a much cheaper substitute, that of sleep for food. We do not know whether the physicians of this Æsculapian city will consider Captain Ross's theory as a good one, or whether they have a better to propose; but of this we are sure, that it was a strong mark of the good will and perseverance of his crew, and of the excellent discipline which he appears to have maintained among them. It at any rate seems to prove the superiority of the human animal to all others, and to show the effect of mental energy in stimulating muscular exertion; and, what is more extraordinary, in suspending the exhaustion which in other cases would follow its excess.

The passage of Wolstenholm Sound occupied the 18th of August, and Carey's Islands were seen, still further confirming the accuracy of Baffin; to whose memory, if we may judge from some incidental remarks of this nature throughout the Journal, and a passage of a much more decided nature in the introduction, Captain Ross pays a late, but a well merited, tribute of respect. An attempt was now made to find the north-west passage in Whale Sound; but we were soon convinced that there was no navigable passage in that direction. We presume that this judgment must have been formed from the Sound being full of solid ice, and from the height and form of the land beyond; but here Captain Ross has unfortunately left us in the dark. We do not ourselves believe there is a possibility of a passage through Whale Sound; but it was incumbent on Captain Ross to have stated his reasons for his conviction. We have not however heard, that out of the numerous projects for a north-west passage, invented since his return, this one has been proposed; and we therefore conclude, that the warmest advocates of the Polar Basin are equally 'convinced.'

After passing Carey's Islands, Smith's Sound was made, of which Baffin appears also to have had a view. Captain Ross conceived the bottom of it as being 18 leagues distant, and gave names to the two Capes. The soundings here gave the depth of 190 fathoms, while the floating of large icebergs also proved that the water was generally deep.

A general opinion has, we believe, been entertained, that the depth of the soundings near the land, afforded indications of the expected passage; and as this question often arises in the course of the Journal, it is proper to inquire on what it is founded. We have already seen, that the depth along shore, even within three miles of that land which is unquestionably continuous, reaches to 455 fathoms, while in the middle of the Bay, it is only one hundred. It is further proved by other observations scattered through the course of the narrative, that the bottom is in various parts of the Bay exceedingly irregular and mountainous; circumstances which preclude all possibility of coming to a conclusion on this subject in favour of a passage in any particular inlet. On the coast of Norway, there are no soundings in 200 fathoms; and the river Kola in Lapland is equally deep; so that no argument appears capable of being founded on the depth of water. Moreover, in Behring's Straits, where there is a passage, there are but 28 fathoms; and in the entrance of the White Sea, but nine. We may also remark, that in Lancaster Sound, and in all the other deep bays to the north, the fragments brought up by the sounding line were sharp, having undergone no motion; whereas, about Disco, where the constant motion of the ice, the tides, and the

winds, cause a perpetual current in alternate directions, the gravel at the bottom is all rounded. In the northern bays, the ice breaks and floats away, and the water at the bottom remains at rest; a circumstance which could not happen, if a passage or current existed through them.

The soundings throughout this voyage present a new feature in nautical practice, and form a valuable addition to the discoveries of our navigator. For these we are indebted to the great attention he has bestowed on this subject by which he has proved, that, with proper care, it is as easy to reach the bottom at 1000 fathoms as it was formerly deemed to be at 100. By an ingenious instrument, also of his own invention, he has succeeded in bringing from the bottom the materials which the common deep-sea lead often failed to do from a tenth part of that depth, by means of which, not only the materials, but even the temperature of the water is ascertained; the non-conducting property of the water preventing the communication of the temperature above to the mud contained in the forceps of his machine.

On the 20th of August, it was found impossible to get further north, in consequence of the ice; and a solid mass was found reaching across that bay, which forms the northernmost part of Baffin's Bay. As this bay is yet unnamed, it is but common justice to our navigator to give it the name of Ross's. The rise of the tide was here four feet, and the flood set to the north; but the velocity was diminished to half a knot in the hour.—At this part of his Journal, Captain Ross thinks it necessary to recapitulate the particulars on which his conviction, that no passage exists in this place, is founded: circumstances which appear equally to have afforded conviction to his officers, who 'were satisfied that they had seen the land all round this bay at different times,' as did also the officers of the *Alexander*, who were at the mast-head of the ship at the same time. They are sufficient to satisfy us, that there is no passage through Ross's Bay; and we shall, instead of quoting them, refer our readers to that part of the Journal. We shall, however, insert the concluding passage, as it is equally applicable to other cases where this problematical passage may still be supposed to exist. 'Even if it be imagined, that some narrow strait may exist through these mountains, it is evident, that it must for ever be un-navigable, and there is not even a chance of ascertaining its existence, since all approach to the bottom of these bays is prevented by the ice which fills them, to so great a depth, and appears never to have moved from its station.' p. 153.

On quitting the northernmost point which the expedition had thus reached, the vessels proceeded to explore Jones's Sound, the next inlet where the passage in question might be expected. This bay was also filled with ice of a peculiarly solid nature, and of a green colour; the land appearing bare of vegetation: Few birds were seen, no whales, or any animal, except seals, which were abundant. The depth of water was 110 fathoms. Here also it was ascertained, 'that a ridge of very high mountains extended nearly across the bottom of the bay, joining to another from the south not quite so high.' Being satisfied that there could be no passage here, the vessels stood to the southward. At this place a piece of fir was picked up, with the mark of the plane and adze on it, and containing nails. Captain Ross thinks it had drifted up the bay by the southerly winds: he seems to forget the shorter road it might have had, like the harpooned whales, from the White Sea, or the west coast of America, through the Polar Basin and Jones's Sound; or Lancaster Sound;—'tis all one. We must here remark, that this is the only piece of driftwood that was found in the bay. A good deal of stress has been laid on the subject of driftwood coming from the Polar Basin, between Spitzbergen and Greenland, or through the North-west Passage down 'Baffin's Sea,' after having made the voyage of Behring's Straits, and for aught we know, that round Cape Horn also, from the Bay of Honduras. 'Inconsequentia rerum fedissima.' We have inquired of our nautical friends respecting these occurrences. Admiral Lowen's theory of the specific gravity of floating mahogany, which is too heavy to float, and of which the specific gravity is diminished by its being perforated, is no doubt very philosophical; but we must say, that we think the plain and vulgar supposition of the loss of a ship, or the washing overboard of a few planks, is a more natural solution of the phenomena.

On the 24th of August, the sun set to our navigators for the first time—terminating a day of '1872 hours,' as it is here stated; 'and giving them warning of the approach of a long and dreary winter.' The land surrounding Jones's Sound was repeatedly seen at the same time; the ice was much heavier and more compact. On the 28th of August, the fogs, which had been found very prevalent for some days, began to be of serious inconvenience, as the nights also became dark; but at several times, the land was traced to the latitude of 75° 27', presenting ridges of very lofty mountains: The coast, however, being defended by ice, it could not be approached within five leagues. The sea to the eastward was at the same time entirely clear of ice. The mountains were estimated at 4000 feet, (it is not easy to conjecture upon what grounds), and were but partially covered with snow; black rocks protruding at their summits; their sides, near the foot, were equally clear; and our navigators considered this part of the coast as habitable. The soundings were found to reach from 200 to 240 fathoms, pretty regularly for a considerable space.

On the 29th, the ships continued standing towards the most distant land, which was indistinctly seen 'at half past five in the afternoon from south to north-west. During this progress, the temperature of the surface water increased from 82° to 36°. This is very properly attributed to the vessels having quitted the ice, in the vicinity of which the freezing temperature is naturally maintained. A wide opening appeared here, between a cape, called Cape Charlotte, and a more distant land, which, after some tacking, the *Isabella* was enabled to stand in for, to explore; and on the 30th of August, the northern side of the land in this opening was seen 'extending

from west to north in a chain of high mountains covered with snow.' A yellow sky, without land, was also seen 'between west and south-west,' with the water clear of ice; the opening taking the appearance of a channel, which was 'judged to be 45 miles' (wide) we suppose. But here we are, as usual, left to our conjectures respecting the opinion Captain Ross might have formed on the subject of this channel, and the feelings of hope or doubt with which he may have been agitated in arriving at a point, which, to say the least, gave the strongest indication that had yet been found of a north-west passage.

In the afternoon of the same day, 'the wind having obliged them to stand to the south side, they had arrived at the most magnificent chain of mountains which they had ever beheld.' The rocks of the summits, in these also, protruded beyond the covering of snow. 'The rest of the day was spent in beating to the westward; all sail was carried, and every advantage taken of the changes in the direction and strength of the wind. As the evening closed, the wind died away,—the weather became mild and warm,—the water much smoother, and the atmosphere clear and serene. The mountains on each side of the Strait, being clear of clouds, had beautiful tints of various colours. For the first time we discovered, that the land extended from the south two-thirds across this apparent Strait; but the fog which continually occupied that quarter, obscured its real figure. During this day, much interest was excited by the appearance of this Strait; but the general opinion was, that it was only an inlet; and, by anticipating a few pages of the narrative, we find that it was the Lancaster's Sound of Baffin, the latitude being here found to coincide with that given in his account.

'Soon after midnight the wind began to shift, and the ship came gradually up, enabling us to stand directly up the bay: I, therefore, made all sail, and left the *Alexander* considerably astern. At a little before four o'clock A. M., the land was seen at the bottom of the inlet by the officers of the watch; but before I got upon deck, a space of about seven degrees of the compass was obscured by the fog. The land which I then saw was a high ridge of mountains, extending directly across the bottom of the inlet. This chain appeared extremely high in the centre, and those towards the north had, at times, the appearance of islands, being insulated by the fog at their bases. Although a passage in this direction appeared hopeless, I was determined completely to explore it, as the wind was favourable; and, therefore, continued all sail. At eight the wind fell a little, and the *Alexander* being far astern I sounded, and found six hundred and seventy-four fathoms, with a soft muddy bottom. There was, however, no current, and the temperature of the mud was 29½°. Soon after this the breeze freshened, and we carried all sail, leaving the *Alexander*, and steering directly up the bay. The weather was now variable, being cloudy and clear at intervals. Mr. Beverley, who was the most sanguine, went up to the crew's nest; and, at twelve, reported to me, that before it came thence, he had seen the land across the bay, except for a very short space. Although all hopes were given up, even by the most sanguine, that a passage existed, and the weather continued thick, I determined to stand higher up, and put into any harbour I might discover, for the purpose of making magnetical observations. Here I felt the want of a consort, which I could employ to explore a coast, or discover a harbour; but the *Alexander* sailed so badly, and was so teewardly, that she could not safely be employed on such a service. During this day we shortened sail several times, to prevent our losing sight of her altogether. As we stood up the bay, two capes on the south side were discovered, one of which I named after the Earl of Liverpool; and the land was named Cape Hay, which formed the boundary on one side of Catherine's Bay before mentioned.

'About one, the *Alexander* being nearly out of sight to the eastward, we hove to for half an hour, to let her come up a little; and, at half past one, she being within six or seven miles of us, we again made all sail. I intended to have sounded during this interval; but I found the south-east swell had so much increased, and the drift was so great, that it was impracticable.

'At half past two there were some hopes of its clearing, and I left orders to be called on the appearance of land or ice ahead. At three, the officer of the watch, who was relieved to his dinner by Mr. Lewis, reported, on his coming into the cabin, that there was some appearance of its clearing at the bottom of the bay; I immediately, therefore, went on deck, and soon after it completely cleared for about ten minutes, and I distinctly saw the land, round the bottom of the bay, forming a connected chain of mountains with those which extended along the north and south sides. This land appeared to be at the distance of eight leagues; and Mr. Lewis, the master, and James Hay, leading man, being sent for, they took its bearings, which were inserted in the log; the water on the surface was at temperature of 34°. At this moment I saw also a continuity of ice, at the distance of seven miles, extending from one side of the bay to the other, between the nearest cape to the north, which I named after Sir Geo. Warrender, and that to the south, which was named after Viscount Castlereagh. The mountains, which occupied the centre, in a north and south direction, were named Croker's Mountains, after the Secretary to the Admiralty. The south-west corner, which formed a spacious bay, completely occupied by ice, was named Barrow's Bay, and is bounded on the south by Cape Castlereagh, and on the north by Cape Rosamond, which is a head land, that projects eastward from the high land in the centre. The north corner, which was the last I had made out was a deep inlet; and as it answered exactly to the latitude given by Baffin of Lancaster's Sound, I have no doubt that it was the same, and consider it a most remarkable instance of the accuracy of that able navigator. At a quarter past three, the weather again became thick and unsettled; and being now perfectly satisfied that there was no passage in this direction, nor any harbour into which I could enter, for the purpose of making magnetical observations, I tacked to join the *Alexander*, which was at the distance of eight miles; and having joined her a little after four, we stood to the south-eastward. The temperature of the mud was here found to be 29°; and no indication of a current was observed.

As we had heard that undoubted indications of a passage through Lancaster's Sound existed, and indeed that the expedition now fitting out was intended almost entirely for the purpose of exploring it, we were rather surprised at the positive manner in which the non-existence of the passage is here stated, and of the apparent force of the evidence brought forward. It



is not for us to reconcile the doubts of those who disbelieve, with the testimony of those who have seen; but we must say, that our 'just indignation at confident nonsense,' to use the words of Tillotson, strongly tempts us to drop the subject altogether, and to accompany our navigator throughout the very little interesting matter that now remains in his Journal.

Quitting Lancaster Sound, the Expedition proceeded to the southward, passing 'two more inlets,' which were filled with large glaciers of ice, and quite impenetrable. It is here remarked, and indeed in many other places, that wherever there was a head sea, the vessels made very little way, being very bad sailers, particularly the Alexander—from whose bad sailing, however, Captain Ross seems to have derived an advantage, namely, that of surveying the coast, while detained by her tardy progress; an attempt which the lateness of the season, and the nature of his instructions, would otherwise have rendered improper. There is much cause to regret, that more attention is not paid in those departments of our service, where no ability can be supposed wanting, to circumstances on which the very fate, no less than the efficacy, of such expeditions must depend: In exploring a coast, nothing can be more obviously necessary than an active vessel, of a light draught, quick in sailing, and ready in working, so as to be fearless of the dangers of a lee-shore. Where so much also, as in this instance, was required to be done in so little time, quick sailing was a property most essentially necessary. It is not for us to imagine where the fault lies; but it is obvious, that no one can be so competent to select the vessel for such a purpose, as he whose business it is to command it, particularly if his previous knowledge of that particular navigation should have entitled him to speak with authority.

An uninterrupted chain continued to extend along this coast to the southward, connected with the ridge formerly observed in the bay. No bottom was found in 550 fathoms, the same general character as on the east side of the Bay appearing here also to prevail.

On this evening, as we are informed, there being a thick fog, the compasses all ceased to act. The effect of a humid atmosphere, in increasing the deviation, or, in other words, in diminishing the more remote action of the magnetic centre on the needle, is frequently mentioned during the progress of the voyage. It is a remarkable fact in the history of magnetism; but, though hitherto little noticed, it has been recorded before. In James's voyage, we find the following passage. 'At night the fog was of so piercing a nature, as to spoil all our compasses, and make them flag so heavy withal, that they would not traverse; wherefore I would advise any that shall sail this way hereafter, to provide compasses of Moscow glass, or some other matter that will endure the moisture of the weather.' James's theory is more distinct, than his remedy is unavailing; as the needle is secured from the immediate contact of the 'piercing fog' in all compasses. It is impossible, in the present state of our information, to propose any thing on this subject, of which, indeed, in all its details, we have so little accurate knowledge; but it is well worth the attention of philosophers. The nature of the expedition, and the want of persons with leisure and ability to make these and many other experiments in the physical sciences, is but too evident in every page of the narrative.

On the 5th of September, another bay was found to the southward, here called Pond's Bay, which was occupied by a long glacier extending a considerable way into the sea. It was therefore impenetrable; but though, from a species of carelessness not unusual throughout the narrative, we are left to our own conjectures, whether the north-west passage may not exist here, on consulting the appended drawings of the land, it is apparent that the high mountainous ridges already described, occupied the whole of the shore. At noon, being abreast of Cape Macculloch, another bay was seen filled in the same manner with ice; and again a second, called Coutts's Inlet; the same mountainous ridges occupying the interior country. At sunset, we had run down above 70 miles of the coast; and I was completely satisfied there could be no passage between latitude 73° 33' and 72°: This coast nowhere appeared to be inhabited.

On the following day, it being quite calm, and the water smooth, we sounded with deep-sea clams, and found one thousand and fifty fathoms, which were the deepest soundings we ever reached in Baffin's Bay. As we had only one hundred and twenty fathoms fifteen miles further north, it is evident that the bottom of the sea, like the land, must here be very mountainous. The mud at the bottom was so extremely soft, that the instrument sunk completely into it, and considerable force was required to draw it out. The sea being a dead calm, the line became perfectly perpendicular; and we had a good opportunity of obtaining the exact depth before it started out of the ground. The instrument came up completely full, containing about six pounds of mud, mixed with a few stones and some sand. Although this mud was of a substance to appearance much coarser than that which we had before obtained, it was also of a much looser nature, and had in it no insects or organic remains; but a small star-fish was found attached to the line below the point marking eight hundred fathoms. The instrument took twenty-seven minutes to descend the whole distance. When at five hundred fathoms, it descended at the rate of one fathom per second; and when near one thousand fathoms down, it took one second and a half per fathom. Although the check, the instrument made to the motion of the line when it struck the bottom, was evident to all, I wished to put the fact beyond doubt; and, for this purpose, I set the instrument so nicely, that the least resistance at the bottom would make it act; and having attached the self-registering thermometer to it, I let it down, first to five hundred fathoms, and in the same manner to six hundred, seven hundred, eight hundred, and a thousand, in succession. At each time it came up empty, and the thermometer each time showed a lower temperature; proving clearly, that the water was colder as it became deeper, and also indicating, that the instrument had not reached the bottom, even as far as the depth of one thousand and five fathoms. It occupied one hour for all hands to pull it up from that depth.

In running further to the southward, the land continued to be traced to the latitude of 71° 22', where it had not been seen by former navigators; and the name of North Ayr is given to a tract never before described. It is remarked, that at this place the mountains near the shore assumed a new character, 'being more detached, of a rounder shape, and the tops less covered with snow.' The formality of taking possession was next executed on a spot about a degree to the southward; and traces of inhabitants were then, for the first time, found on this coast. The remains of a habitation, with a fireplace, a human skull, and other marks of civilization being visible. This territorial acquisition to the empire will not probably be considered by the Colonial Department as a very interesting result of Captain Ross's voyage.

The hopes of discovering the north-west passage, seem in this part of the narrative to be hourly diminishing; as we read of nothing but bays filled with glaciers, and of high land backing the whole coast, which was always seen during the operations of standing in and out, according to the state of the wind and weather, in such a manner as to leave no doubt of the continuity of the coast being every where distinctly traced.

A very large iceberg was driven to the southward of Bruce's Bay, and its measurements are described, together with the attack of a bear: it was aground in sixty-one fathoms. A notion has been entertained, that such mountains of ice had the peculiar property of moving with vast rapidity against the wind, breaking through and quitting the fields of ice in which they were insulated. Hence it has very properly been concluded, that they were moved by some invisible force—which could of course be none other than the current running out, or into, the north-west passage, it is indifferent which. Now it would be very proper to ascertain, by what means Fabricius, who appears to be the authority for this belief, ascertained the existence of an under current capable of producing this effect; or how he determined, that the berg, and not the field ice, was in motion. We have taken the trouble to make some inquiries among our most intelligent navigators who frequent Davis's Strait, and we find no authority in support of this fancy. The fact is, that the field ice, which is afloat, quits the berg, which is aground; and as the most conspicuous body is 'always conceived to be that in motion, Fabricius, who knew less of the sea than he did of butterflies, imagined that the mountain was sailing against the wind, when the field was sailing before it. These mountains have been found aground in 300 fathoms; but that is not near the limit at which they are known to lie. It is a moderate computation for solid ice, to allow a fathom under water for a foot above; and as icebergs have been seen 600 feet above the surface, they must have been aground in as many fathoms, when Fabricius imagined them afloat.

On the 13th of September, the Expedition stood out 120 miles into the bay, which was then clear of ice; 'that which had filled it in the commencement of the voyage having disappeared.'—It was thus ascertained, that no land existed in the channel of Davis's Strait, about the latitude 70° 40', and consequently, that there is no such land as James's Island, which is laid down in most of our charts. The origin of this Island, which Captain Ross's voyage has thus expunged from the charts, appears to exist in an error founded on the inaccurate position given to the land on the opposite side of Davis's Strait. In these charts, Queen Anne's Cape is laid down in the longitude of 51° nearly, and Cape Walsingham in 68°. As the real longitude of the former is about 54°, and that of the latter 60° 45', it is probable, that vessels taking their departure from the east side of the Strait, and making the opposite land, at the distance of 170 miles, instead of 400 which it was supposed to be, had mistaken Cape Walsingham, or some other part of the land, for an island.

On the 15th, the expedition continued running along the land, which still presented mountains not less high, or less covered with snow, than before; and two banks were discovered, having not more than 18 fathoms water on them. These shoals, it is probable, extend across the whole bay to Waygat Island, where a similar reef exists. That is deducible from the solid barrier of ice which was found in this direction, in proceeding northwards, and from the icebergs being still aground upon it on each side, at their return; all the field ice being melted away. This barrier of grounded icebergs, like that at Cape York before mentioned, appears to be in part the cause of the detention of the ice in the upper part of the bay to a late season: the field ice being incapable of drifting southwards in consequence of this blockade. The vessels were busy till the 18th, in tracing the land which Davis had seen before, and in naming the capes and bays which he had omitted; but the most important part of the observations consisted in determining the longitudes with a greater degree of accuracy.

From the 18th to the 21st, the ships continued to beat to the southward, and on that day stood so far across the bay, as again to make the land on the eastern side of it, near Queen Anne's Cape. The depth was forty fathoms, confirming the observations formerly made respecting the shallowness of the water in Baffin's Bay. Mount Raleigh was found to agree precisely with Davis's latitude; but, as usual, differing materially in longitude. It appeared of a pyramidal form to our navigators, and is considered exceedingly high; and, from the comparison of the longitudes which is here made, the breadth of Davis's Strait in this place is estimated at 100 miles.

The weather had now become so far unsettled, that gales of wind were frequent; materially impeding the progress of the ships, and particularly that of the Alexander, which appears to have combined all the properties of a bad sailer. The usual remarks on the continuity of the land to the southward, interspersed with the ordinary nautical occurrences, are found through several successive days down to the 30th, when the Expedition was in lati-

tude 65° 10', and discovered a bank of small extent. On the 1st of October the ships reached Cumberland Strait, of which they became immediately sensible, by the increased strength of the tides, and by their setting all round the compass in every direction;—the strength of the current was found to be two miles in the hour. Here the voyage of discovery may be said to terminate, as the following extract shows that this was its authorized conclusion.

'As the first of October was the latest period, which, by my instructions, I was allowed to continue on this service, I was not authorized to proceed up this Strait to explore it, which, perhaps, at the advanced season of the year, might be too hazardous an attempt; the nights being now long, and the little day-light we had, being generally obscured by fogs or snow, and the rigging of the ship covered with ice. I thought it, however, advisable to finish our operations for this season, by making Resolution Island, the exact situation of which had been laid down by Mr. Wales; I, therefore, determined on steering for the southernmost land in sight; we, therefore, crossed the entrance of Cumberland Strait, and, making an allowance for indraft, steered about S.S.E. It will appear that, in tracing the land from Cape Walsingham, no doubt could be entertained of its continuity until the place where we found Cumberland Strait, which is much further south than it was laid down from the latest authorities the Admiralty were in possession of; but it is very near the place where Davis placed it in his chart, which has been found since our return. From the circumstance of a current being found at the entrance of this Strait, there is no doubt a much better chance of passage there than in any other place; and it was a subject of much regret to us, that we had not been able to reach its entrance sooner.'

On the 3rd of October, the attempt to verify its longitude by means of Resolution Island was considered as too hazardous under the existing circumstances; viz. thick weather, bad sailing ships, a dark moon, spring tides a coast surrounded with rocks, and the time I was directed to leave the service on which I was employed being arrived. Our bearings of yesterday were, however, sufficient to convince us, that our observations and chronometers could not be materially wrong. During the last night, which was both dark and foggy, the Alexander had separated from us considerably; and the wind being light, she did not join us until noon. We then bore up for Cape Farewell, having intimated, by signal, that it was my intention to make that Cape on our passage home. We sounded in three hundred and seventy fathoms, Cape Beat on Resolution Island bearing west, distant sixteen leagues, by our reckoning. In the evening a light breeze sprang up from the westward, and we pursued our course.'

It is unnecessary, however, to pursue that course any longer. After experiencing a gale of wind to the southward of Cape Farewell, the ships reached Shetland on the 30th of October.

As we have, in the preceding detail, made repeated reference to Capt. Ross's instructions, and, as it appears to us, the complete manner in which he executed them, it is necessary to make a few observations on their tenor, that by comparing them with the results of his voyage, the reader may judge whether he has not fulfilled all the expectations which they held out. The source from which they proceed deserves our respect, but not our implicit acquiescence in the speculations on which they appear to have been founded.

It is first stated, 'that there is reason to suppose, that ice is most abundant near the shores of the continent and islands, and in narrow straits and deep bays; and it may also be expected, that the sea will be most clear of ice where the currents are strongest, as the stream of a river will continue open long after the sides are frozen up.' This expectation is not well-founded. The ice is not most abundant in such situations—as this voyage has proved; and it ought moreover to have been obvious, that the depth of water, and not the proximity of land, was one of the main causes, regulating the position and quantity of the ice. Moreover, near the shores, the greater strength of the tide currents, and the sudden inequality of level produced by their rise and fall, cause the ice to separate in these places, where, in the wider seas, it continues unbroken.

The next remark is to this effect. 'From the best information we have been able to obtain, it would appear that a current of some force runs from the northward towards the upper part of Davis's Strait during the summer season, and, perhaps for some part of winter also; bringing with it fields of ice in the spring, and icebergs in the summer.' Now it does not appear, that either Baffin, or Davis, or James, found any such currents; nor have any of the whalers whom we have consulted brought forward any proofs of a current 'of some force' in any place, which was not produced, in the manner formerly stated, by the winds and tides. The icebergs, whenever they are capable of motion, are drifted either up or down the bay by the winds, and as the northerly winds predominate in the summer, it is a natural consequence that to careless observers, they should have suggested the idea of a current down the bay. The real cause of this movement might easily have been discovered, if those who quote Baffin had read him with attention. He says—

'In lat. 72° 12', the sea is open, of an unsearchable depth, and of a good colour; the tides keep no certain course, nor rise but a small height, as 8 or 9 fathoms, and the floods cometh from the southward; and, in all the bay beyond that place, the tide is so small, and not much to be regarded, yet by reason of snow melting on the land, the ebb is stronger than the flood; by means whereof, and the winds holding northerly the fore part of the year, the great isles of ice are set to the southward, some into Erebus Hudson, and others towards Newfoundland; for in all the channel where the sea is open, are great quantities of them driving up and down; and, till this year, not well known where they were bred.'

Presuming, however, that such a current exists, the instructions go on to say, that it must 'be derived from an open sea; in which case Baffin's

Bay cannot be bounded by land, as our charts generally represent it, but must communicate with the Arctic ocean.' That Baffin's Bay does exist, and that it is 'bounded by land,' has been fully proved by this voyage; but even if that had not been so thoroughly established, we are at a loss to know on what principle a current should be expected to flow from a supposed Arctic ocean to the southward. No current flows down Behring's Straits, which in this case, ought to be equally expected. As to the possibility of a current under vast fields of ice, carrying with it driftwood, which must thus be supposed capable of sinking, travelling unimpeded under ice of the most irregular forms, it does not admit of a serious examination.

'In passing up the Strait,' the instructions add, 'if such a current should be discovered, it will be of the greatest importance to you, in pointing out that part of the Straits which is likely to be least encumbered with ice, as well as in leading you direct to the opening by which it may be supposed to pass from the Arctic sea into Davis's Strait.' Captain Ross appears, in this case, to have obeyed his instructions with the greatest anxiety; but it is evident, from the sketch of his Journal which we have now given, that no indication of such a current was ever found.

In a subsequent paragraph, he is directed to abandon its pursuit, if it appears to exist in the north-east quarter. Now, if Baffin's Bay has no existence, there seems to be no reason why the attempt to sail into the Arctic ocean should not have been made, wherever it appeared possible. It seems to us, indeed, that a passage might, with most reason, have been expected between three islands and Cape York, as Baffin had not seen this part of the coast.

An order follows to examine the strength and direction of the current once in 24 hours, or oftener, if any material change is observed; to take its temperature at the surface frequently as you proceed, and to compare it with the temperature of the surface, where there is no current.' The expectations founded on difference of temperature, appear not to have been well considered, nor can we conceive on what grounds a current from an arctic sea should be supposed to possess a higher temperature than the water to the southward. The truth seems to be, with respect to temperature at the surface in those seas, that it is so much influenced by the presence or absence of ice, that this must be considered as a disturbing force, capable of destroying any effects which could follow from a warm current, did any such exist. In fact, in examining the Meteorological Journal, it will be found that the 'temperature of the surface' was extremely steady, and varied only according to its proximity to the frozen shores, or to the presence or absence of ice.

In a subsequent part of these instructions, a passage occurs, in which it is said, that Baffin 'is supposed to have seen the land.' Baffin's own remark is this, 'As namely there is no passage, or hope of a passage in the north of Davis's Strait, we having coasted all, or near all, the circumference thereof, and find it to be no other than a great Bay.'—'For my own part, I would hardly have believed the contrary, until mine eyes became witnesses of that I desired not to have found; still taking occasion of hope on every little likelihood, till such time as we had almost coasted the circumference of this great Bay.'

It appears from a multitude of testimonies, that the western land had not before been seen beyond the 69° of latitude, and it is here suggested that the north-east point of America might be expected about 72°. We have always doubted the observation of Hearne and Mackenzie, respecting the sea which they supposed they had seen; and in consequence of Captain Ross's investigation, the whole question respecting the northern coast of America, has become more than ever obscure. The fear which Mackenzie felt at being detained by the ice, prevented him from ascertaining the fact that he had reached the sea; and, from other causes, Hearne has left the matter in still greater uncertainty. The arguments of both these travellers, rest solely on the presence of whales, and the rise and fall of the tide. Now with respect to the former, it is well known, that the white whale enters the rivers in Hudson's Bay in such abundance, as to have led to the establishment of a fishery in them. In Ellis's voyage we also find, that those whales were seen at a distance of 150 miles above the entrance of Wager's Strait, where the water was fresh on the surface;—'notwithstanding we were now 150 miles from the entrance, on the 2d of August we passed the fall, above which the tide rose only four feet; but the shores were very steep, and no ground was to be felt with 140 fathoms; there still appeared seals and white whales, but notwithstanding this, most of our company were not a little discouraged by their finding the water almost fresh on the surface.' As these whales thus appear to frequent the fresh water, the circumstance of their being seen by Hearne and Mackenzie, proves nothing respecting the presence of the sea; while the rise and fall of tide in the Hudson, and in many other rivers, extends to an enormous distance from the ocean. We do not mean to dispute, that both these travellers had arrived at the tide part of the respective streams which they examined. But the position of the northern shore of America remains a problem to be ascertained by future discoveries.

In concluding this sketch of Captain Ross's voyage, it is fully apparent that he has established and extended the discoveries of Baffin, so as once more to convert his gratuitous bay into a real bay, notwithstanding the demonstrations of its non-existence which preceded his voyage, and, as we understand, have even attended it since his return. The term 'gratuitous' must now be transferred to Baffin's 'sea.' He has also most clearly established, that, so far from there being a perpetual current setting down along the eastern coast of America, and the western shores of old Greenland, at



the rate of four or five miles an hour, no current whatever exists in any part of the Bay, from Disco to Cumberland Straits, which is not transient and superficial, generated by the diurnal motion of the tides, and the drifting of the ice by the winds.

That he has disproved the existence of a North-west Passage, or of any passage, throughout the whole space which he circumnavigated; appears to us to be also most clearly demonstrated. The anxiety for this object, as we deduce from some hints in his book, has persecuted him, since his return, in a manner that does not appear very creditable to those who have set themselves up as its champions. Indeed we have, even here, heard more than enough of the heat which has been excited on this occasion. We leave it to those who have so acted, to determine, and to show by their conduct, whether the unwillingness to abandon their hypothesis, has not been a stronger motive for this pertinacity than the advancement of science. The real philosopher is distinguished by his anxiety for truth; and we have never been able to understand on what other grounds the discovery of a North-west Passage, to the north of Cumberland Strait at least, has been esteemed a desirable object. The condition of Baffin's Bay, to a late period in the summer, is such, and the uncertainty of effecting a passage through that Strait, if it existed, so great, as plainly to make it impossible that any advantageous commerce should ever be carried on by such a route with the Pacific Ocean.

What the event of the new Expedition to this quarter, now afloat, may be, we do not venture to predict, as far as relates to Cumberland Strait; but we have no hesitation in expressing our belief, that, to the north of this, it will confirm the discoveries of the last season. The *Hecla* bomb, and a gun-brig, have, as we understand, been fitted out for this expedition; the latter having been raised on. This measure we humbly conceive to have been palpably injudicious; and in thus making room for both crews, in case of accident, the other essential properties so requisite have been sacrificed. She now draws more water than the *Hecla*; and from being so deep in the water, she will necessarily sail (like the *Alexander*) so heavily, as to be unfit for exploring bays or inlets on a lee-shore. She thus also has become more unsafe even than the *Isabella*, her wall-side being under water; in consequence of which, it is to be feared, that she will be crushed, if she should happen to be nipped by the ice. We understand that, in addition to these defects, she is top-heavy, and unable to stow provisions for her crew. The *Hecla* appears to have been fitted with more judgement. All vessels employed among fields of ice ought to be sharp, without which, they cannot rise between two fields; and the part which receives the pressure must consequently give way. If the ship is 'wall-sided,' or perpendicular, the ice can have no effect in raising her: as is seen in merchant-built ships, which are constructed to carry cargoes. The form of the American schooner has been found best adapted to the ice; and there are many instances where these vessels have been fairly lifted on the top of a field without receiving any damage, while others of a different construction have been crushed. It is also necessary, that a vessel intended to work among ice should be a fast sailer, as it is only on a shift of wind that any progress can be made. When it has blown fresh for a day in any one direction, the ice becomes packed, and the ship is consequently becalmed, but is generally enabled to get into some interval formed by the irregular shape of the fields. Here she must remain until the ice is again set in motion by a change of wind; and as the channels thus formed are often very intricate and narrow, she must, in passing through them, make her course on every point of the compass. She is, therefore, often compelled to beat against the wind; and a good sailer will consequently, by weathering a point sooner than another, make her passage through a channel before it is closed up. It is to be remarked also, that, in these cases, ships make the best way when the wind is contrary; as the ice opens first to leeward, and moves on until it is stopped by grounded icebergs, or by lands. A good sailing ship has, therefore, all additional advantage; for as the lee side of the packed ice first opens, and continues opening gradually to windward, the fastest sailing ship keeps longest in the loose ice.

As in all cases the greatest pressure of field ice is experienced in a space from three to six inches above the water's edge, pieces ought to be fitted on, to carry the diagonal line above this part of the ship's side, that at the first trip she may immediately rise; a precaution which has been neglected both in the *Hecla* and *Griper*. We have only to suggest, in addition to these remarks, that a light schooner should be added to the present expedition, for the purpose of exploring in-shore.

A variety of matter is contained in a bulky appendix, which our narrow limits will not allow us to examine; nor are the several subjects all of equal importance; certainly not sufficient to justify the space which they occupy.

We have often had occasion to regret, that, in the appointment of expeditions of this nature, so little attention has been paid to the selection of persons competent to conduct those scientific inquiries which must be expected to arise on such occasions. Whatever knowledge of navigation a naval officer may possess, it would be unreasonable to expect from him a capacity to decide delicate questions of science, altogether out of the sphere of his profession. Even were his education such as to give him that extensive information, which he must possess unusual opportunities or uncommon talents to have acquired, it is plain, that his decisions would not be received as of authority. In all such cases, the confidence to be reposed in an observer must obviously depend on his previous reputation and acknowledged accuracy. It is vain to expect, that it will be placed in those whose very profession must disable them from acquiring that which in such cases is in-

dispensable. It must be recollected, that in all expeditions of this nature, a most perilous responsibility rests on the commander. It is he who must watch for all, and think for all. The ordinary calls on his attention are so frequent and so important, that even the scientific acquirements of a Maeklyne would, in such a case, prove useless. It is enough for the commander, to attend to the navigation of his vessel, and to preserve the discipline and the health of his crew; and, as in this case, it is further necessary to be perpetually on the watch amidst the new and perilous situations in which he is every minute liable to be placed, it is much if he can carry on correctly the ordinary hydrographical observations which are more peculiarly his duty. If this be true even of astronomical and meteorological remarks, it is more particularly unreasonable to expect, that he can attend to the department of Natural History; to the collecting or preserving of objects, of which, but by an extreme chance, he can know nothing; and to the numerous philosophical questions of an incidental nature, which may come in his way at every step of his progress.

In reading the instructions, we observe, that a Captain Sabine of the artillery was recommended to the Admiralty as a gentleman well skilled in Astronomy, Natural History, and several branches of knowledge.

Now, this recommendation does not seem to have been very correctly given; and we think we can discover, that Captain Ross does not set a high value on the acquirements of Captain Sabine. He has evidently expressed himself with much caution; for reasons which we do not know, but which are probably very good, as our countrymen are noted for their prudence. But we can easily deduce from one of his remarks, that Captain Sabine did not wind up his chronometers, and, consequently, that one of them very naturally ran down. As far as we can discover from the Journal, this is the only experiment in Astronomy for which Captain Sabine is responsible. But a much stronger decision is ready on the subject of Natural History. There is a Botanical catalogue, no doubt; but it is professedly drawn up by a botanist at home, whose celebrity could acquire no addition from any praise of ours. There is, further, a very awkward correspondence on Zoology; and an article appended, which has been drawn up as well as could be expected, by the surgeons of the ship, and corrected by Dr. Leach. From this curious correspondence, it appears, that the Naturalist of the Expedition confesses himself ignorant of every thing in this branch of knowledge except what relates to Ornithology; and it is further pretty plainly insinuated, that in this department he means to be indebted to his brother, who is considered an ornithologist. Future naturalists will therefore be at a loss to know, whether *Larus Sabini* marks the path of Joseph or of Edward Sabine through the regions of air; or which of these philosophers is to rise to ornithological immortality on the plumes of a sea gull. In Geology, or Géognosy, the Géognost of the Expedition seems to have been equally deficient; and we have accordingly another *exposé* in the cautious nature of an apology also. This is followed by a catalogue of specimens, drawn up by a well known member of the Geological Society.

An account of various Instruments, most liberally furnished to the Expedition, is found in the Appendix; and of these a few require notice. Among the various Compasses for different objects which formed part of the scientific furniture of the Expedition; due praise is given to Kater's Azimuth Compass, and to a Steering Compass, constructed by Alexander, of Leith. In consequence of the better adaptation of the weight of the needle to that of the card, and the superior method of suspension, it was found to traverse in foggy weather, near Lancaster Sound, when all the rest had ceased to act. Of the several Dipping-Needles, it appeared that Nairne's alone was worthy of being relied on: From various defects, no results could be obtained from the others. There is an amusing attempt to trim between the importance and the inutilty of Dr. Wollaston's Dip Sector. We do not pretend to judge of an instrument which we have not seen; but the objections seem insurmountable, arising from the inequality of the refraction on various parts of the horizon, and from its extreme inconstancy in situations where ice is present.

The most obvious results (although, we may presume, unexpected by the inventor himself) were obtained from Troughton's whirling horizon. The minute vibrations noticed in the Appendix, where these remarks are contained, must have arisen from imperfections in the workmanship, which are perhaps insurmountable; but the inventor seems to have forgotten, that the ordinary movements of the ship must have communicated to it, motions incapable of being counteracted by the quantity of its centrifugal force; and accordingly it deviated from the horizontal position, even in moderate motions, above half a degree.

An instrument called a Sympeisometer, is praised as likely to supersede the use of the Marine Barometer. This appears to be a variation of the Manometer, and is obviously subject to the same defects. If it is more quick in indicating the approach of a squall, it also indicates changes which do not depend on the increase of the wind, while it is affected by differences of temperature, which the correcting thermometer does not check so rapidly. Hence the sails may be often taken in when no difference but that of temperature has occurred. We do not, for our parts, think that a manometer of any construction, will ever supersede the marine barometer, imperfect as that may be; And, that the sympeisometer does not accord with the barometer, is evident on inspecting the meteorological table, where the lines are very often far asunder. There is no great reason to doubt, that these barometers acted well, as will appear in the Journal, and by the fact, that calms were for a long time prevalent. Other instruments are described in this Appendix; but some of these seem not to have been used for want of opportunity, and others for want of competent observers.

## New Poem.

## RHODODAPHNE, OR THE THESSALIAN SPELL.

This is a very elegant little Work. It is a Grecian fairy-tale, which required a considerable knowledge of erotic antiquity in the author, and no ordinary command of the lighter graces of versification.

All the charm of the story would be destroyed by any thing like an abstract of its brief but ingenious contents; and for the same reason, viz. the fear of diminishing the pleasure of the reader and the just attractiveness of the poet, we shall abstain from any quotation which would reveal the main incidents of Rhododaphne. The book, indeed, short as it is, abounds in passages which, from the general nature of their subjects, may be more fairly and properly extracted than any of the component parts of the tale itself. Our readers will easily form their judgment of the merits of this writer, who reminds us of the anonymous author of the "Bridal of Triformain," from the subjoined specimens.

The scene is Greece.

Eve came, and twilight's balmy hour;  
Alone, beneath the cedar bower,  
The lovers sat, in converse dear  
Retracing many a backward year,  
Their infant sports in field and grove,  
Their mutual tasks, their dawning love,  
Their mingled tears of past distress,  
Now all absorbed in happiness;  
And oft would Fancy intervene,  
To throw, on many a pictured scene  
Of life's untrodden path, such gleams  
Of golden light, such blissful dreams,  
As in young Love's enraptured eye  
Hope almost made reality.

So in that dear accustomed shade,  
With Lads flowing at their feet,  
Together sat the youth and maid,  
In that uncertain shadowy light,  
When day and darkness mingling meet,  
Her bright eyes ne'er had seemed so bright  
Her sweet voice ne'er had seemed so sweet,  
As then they seemed. Upon his neck  
Her head was resting, and her eyes  
Were raised to his, for no disguise  
Her feelings knew; untaught to check,  
As in these days more worldly wise,  
The heart's best, purest sympathies.

After this Arcadian sketch of love and romance, let us next behold a more varied picture.

'Tis she,  
The magic maid of Thessaly,  
'Tis Rhododaphne! By the spell,  
That ever round him dwelt, oppress,  
He bowed his head upon his breast,  
And o'er his eyes his hand he drew,  
That fatal beauty's sight to shun.  
Now from the orient heaven, the sun  
Had clothed the eastward waves with fire;  
Right from the west the fair breeze blew:  
The full sails swelled, and sparkling through  
The sounding sea the vessel flew:  
With wine and copious cheer the crew  
Caroused: the damsel o'er the lyre  
Her rapid fingers lightly flung,  
And thus, with feigned obedience, sang:—

The Nereid's home is calm and bright,  
The ocean-depths below,  
Where liquid streams of emerald light  
Through caves of coral flow.  
She has a lyre of silver strings  
Framed on a pearly shell,  
And sweetly to that lyre she sings  
The ship-wrecked seaman's knell.

\* This work, our readers well know, was published anonymously; but, very recently, we have seen it, and "Harold the Dauntless," advertised as the now acknowledged compositions of Walter Scott.

The ocean-snake in sleep she binds;  
The dolphins round her play:  
His purple couch the Triton winds  
Responsive to the lay,  
Proteus and Phorcy, sea-gods old,  
Watch by her coral cell,  
To hear, on watery echoes rolled,  
The ship-wrecked seaman's knell!—

She rose, and loosed her radiant hair,  
And raised her golden lyre in air.  
The lyre, beneath the breeze's wings,  
As if a spirit swept the strings,  
Breathed airy music, sweet and strange,  
In many a wild phantastic change.  
Most like a daughter of the Sun  
She stood: her eyes all radiant shone  
With beams unutterably bright:  
And her long tresses, loose and light,  
As on the playful breeze they rolled,  
Flamed with rays of burning gold.

We are, however, scarcely fulfilling our promise of selecting common places from this small but well-stocked poetical store-house.

Hast thou, in some safe retreat,  
Waked and watched, to hear the roar  
Of breakers on the wind-swept shore?  
Go forth at morn. The waves, that beat  
Still rough and white when blasts are o'er,  
May wash, all ghastly, to thy feet  
Some victim of the midnight storm.  
From that drenched garb and pallid form  
Shrink not: but fix thy gaze, and see  
Thy own congenial destiny.  
For him, perhaps, an anxious wife  
On some far coast o'erlooks the wave;  
A child, unknowing of the strife  
Of elements, to whom he gave  
His last fond kiss, is at her breast;  
The skies are clear, the seas at rest  
Before her, and the hour is nigh  
Of his return: but black the sky  
To him, and fierce the hostile main  
Have been; He will not come again:  
But yesterday, and life, and health,  
And hope, and love, and power, and wealth,  
Were his: to day, in one brief hour,  
Of all his wealth, of all his power,  
He saved not, on his shattered deck.  
A plank, to waft him from the wreck.  
Now turn away, and dry thy tears,  
And build long schemes for distant years!  
Wreck is not only on the sea;  
The warrior dies in victory:  
The ruin of his natal roof  
O'erwhelms the sleeping man; the hoof  
Of his prized steed, has struck with fate  
The horseman in his own home gate:  
The feast and mantling bowl destroy  
The sensual in the hour of joy.  
The bride from her paternal porch  
Comes forth among her maids: the torch,  
That led at morn the nuptial choir,  
Kindles at night her funeral pyre.  
Now turn away, indulge thy dreams,  
And build for distant years thy schemes!

The thoughts in the ensuing passage are perhaps sufficiently usual, when such matters are recalled, for the thousandth time, by any amatory poet: but we can fix no limit to their power of pleasing:

We grew together, like twin flowers,  
Whose opening buds the same dews cherish;  
And one is left, ere noon tide hours,  
Violently; one remains, to perish  
By slow decay; as I remain  
Even now, to move and breathe in vain,  
The late, false love, that wordlings learn,  
When hearts are hard, and thoughts are stern,  
And feelings dull, and custom's rule  
Omnipotent, that Love may cool,

And waste, and change: but this—which flings  
Round the young soul its tendrils rings,  
Strengthening their growth and grasp with years  
Till habits, pleasures, hopes, smiles, tears,  
All modes of thinking, feeling, seeing,  
Of two congenial spirits, blend  
In one inseparable being,—  
Deem'st thou this love can change or end;  
There is no eddy on the stream,  
No bough that light winds bend and toss,  
No chequering of the sunny beam  
Upon the woodland-moss,  
No star in evening's sky, no flower  
Whose beauty odorous breezes stir,  
No sweet bird singing in the bower,  
Nay, not the rustling of a leaf,  
That does not nurse and feed my grief  
By waking thoughts of her."

It would be unpardonable, in noticing an author who is to be classed among the most decided votaries of the classical Cupid,

"Et quantum est hominum venustiorum,"

that this inflammatory era has produced, to omit his ardent address to his presiding deity:

\* First, fairest, best, of powers supernatural,  
Love waved in heaven his wings of gold,  
And from the depths of Night eternal,  
Black Erebus, and Chaos old,  
Badelicht, and life, and beauty rise  
Harmonious from the dark disguise  
Of elemental discord wild,  
Which he had charmed and reconciled,  
Love first in social bonds combined  
The scattered tribes of human kind,  
And bade the wild race cease to roam,  
And learn the endearing name of home.  
From Love, the sister arts began,  
That charm, adorn, and soften man,  
To Love the feast, the dance belong,  
The temple-rite, the choral song;  
All feelings that refine and bless,  
All kindness, sweetness, gentleness.  
Him men adore, and gods admire,  
Of delicacy, grace, desire,  
Persuasion, bliss, the bounteous sire;  
In hopes, and toils, and pains, and fears,  
Sole dryer of our human tears;  
Chief ornament of heaven, and king  
Of earth, to whom the world doth sing  
One chorus of accordant pleasure,  
Of which he taught and leads the measure,  
He kindles in the inmost mind  
One lonely flame—for once—for one—  
A vestal fire, which, there enshrined  
Lives on, till life itself be done.  
All other fires are of the earth,  
And transient: but of heavenly birth  
Is Love's first flame, which howsoever  
Fraud, power, woe, chance, or fate, may sever  
From its congenial source, must burn,  
Unquenched, but in the funeral urn.

## Stanzas for Music.

When lovely sounds about my ears  
Like winds in Eden's tree-tops rise,  
And make me, though my spirit hears,  
For very luxury close my eyes,  
Let none but friends be round about  
Who love the soothing joy like me,  
That so the charm be felt throughout,  
And all be harmony.

And when we reach the close divine,  
Then let the hand of her I love  
Come with it's gentle palm on mine  
As soft as snow or lighting dove;  
And let, by stealth, that more than friend  
Look sweetness in my opening eyes,  
For only so much dreams should end,  
Or wake in Paradise.